

ATMOSPHERIC PRESSURE (expressed in inches and hundredths).

The distribution of mean atmospheric pressure for March, 1893, as determined from observations taken daily at 8 a. m. and 8 p. m. (75th meridian time), is shown on Chart II by isobars.

Chart VI exhibits the normal distribution of atmospheric pressure and prevailing wind-directions over the United States for March. The publication of the charts of this series is preliminary to the publication by the Weather Bureau of specially prepared data and charts showing meteorological and climatic features and conditions of the United States.

In March, 1893, the mean pressure was highest east of the Mississippi and south of the Ohio rivers, and over North Dakota and the eastern Saskatchewan valley, where it was above 30.10, the highest mean reading, 30.15, being noted at Augusta, Ga. The mean pressure was lowest on the extreme north Pacific coast, where it was below 29.85, and the mean values were below 30.00 over Maine and the Canadian Maritime Provinces, over the west part of the southern plateau region, and from the Pacific coast north of the 40th parallel over the northern plateau region.

In March there is usually a decrease of pressure over the United States and Canada, the decrease being most marked along the New England coast, over the Canadian Maritime Provinces, and in the Saskatchewan Valley, where the mean pressure is more than .10 lower than for February.

A comparison of the pressure chart for March, 1893, with that of the preceding month shows a general decrease of pressure, except over northern New England where the mean pressure was somewhat higher than for February. The most marked decrease of pressure occurred over the northwestern part of the country, where it was .15 to .20.

The mean pressure for March, 1893, was above the normal from western Wisconsin over eastern Montana and eastern Assiniboia; it was also above the normal east of a line traced from eastern Upper Michigan to southern Illinois and thence to southern Arizona. Elsewhere the mean readings were below the normal. The greatest departure above the normal pressure was reported in Nova Scotia, where it was .10 to .12. The most marked departure below the normal pressure was noted along the immediate north Pacific coast, where the mean values were .15 to .19 lower than usual.

HIGH AND LOW AREAS.

The paths of areas of high and low barometric pressure over the United States and Canada for March, 1893, are shown on Charts I and IV, respectively, and some of the prominent features of the areas are given in the table at the end of this chapter.

HIGH AREAS.

The high areas traced for the current month corresponded in number with the average number of high areas traced for March during the last 19 years. The average velocity of the high areas was about 2 miles per hour greater than usual.

Of the high areas traced for March, 1893, 7 advanced from the Saskatchewan Valley, 1 from the south Pacific coast, and 1 occupied Tennessee at the opening of the month. Two of the high areas from the Saskatchewan Valley advanced to the south Atlantic coast, 3 reached the middle Atlantic or New England coasts, 1 passed over Nova Scotia, and 1 disappeared by a decrease of pressure over the middle Mississippi valley. The high area from the south Pacific coast moved eastward to Texas, and thence to the eastern lake region. The high area which occupied Tennessee on the 1st passed off the south Atlantic coast. The following is a description of the high areas referred to:

I.—Occupied an area extending from eastern Arkansas over

Tennessee and north parts of the east Gulf states at the opening of the month, and moved thence off the Carolina coast by the evening of the 2d, attended on the 1st by a fall in temperature of 10° along the south Atlantic coast, and on the 2d by rain on the south Atlantic and east Florida coasts.

II.—The pressure increased over the Saskatchewan Valley during the 1st and 2d, and the evening of the 2d was 30.50 over southern Assiniboia and southern Alberta. During the 3d this high area passed southeastward over the Dakotas, with pressure 30.80 at Prince Albert, Sas., in the morning. On that date the temperature fell 30° to 40° from the southern half of Illinois to central and northwestern Texas, and the line of freezing weather reached central Arkansas. By the evening of the 4th the center of the high area had advanced to Oklahoma, the temperature had fallen 30° to 40° in the Gulf and south Atlantic states, freezing weather was reported at Meridian, Miss., Montgomery, Ala., and Charleston, S. C., the morning minimum at Chattanooga, Tenn., 14.7°, was the lowest temperature on record for March at that station, and the minimum at Little Rock, Ark., 16.5°, was as low as previously reported for March. The eastward movement of this high area over the middle and east Gulf states was attended by temperature below freezing and frost along the middle and east Gulf coasts and in northern Florida the morning of the 5th. The morning of the 6th heavy frost was noted at Montgomery, Ala., and light frost at Savannah, Ga., and Charleston, S. C.

III.—Followed closely number II and apparently united with that high area the night of the 5th. Number III occupied the region north of eastern Montana during the 4th; the morning of that date a 24-hour temperature fall of 20° was shown in the valley of the Red River of the North, and the temperature was 24° below zero at Saint Vincent, Minn. During the day and night of the 5th the high area passed south-eastward over the central valleys to the east Gulf states.

IV.—Was apparently central over Lower California on the 10th. On that date the temperature fell 10° to 20° over the Rocky Mountain and plateau regions, and light frost was reported at Tucson and Yuma, Ariz. During the 11th this high area advanced to Texas, with pressure above 30.40 over southern New Mexico in the morning, the temperature fell 10° to 20° in the central valleys, and light frost was noted at Tucson, Ariz. By the evening of the 12th the high area had moved rapidly northeastward to the upper Ohio valley, and by the morning of the 13th had united north of the Lake region with an area of high pressure which had advanced eastward from Manitoba during the 12th. The morning report of the 12th showed a fall in temperature of 20° over the interior of the east Gulf states, and a fall in temperature of 20° to 30° was noted over Lake Superior the evening of the 12th.

V.—Appeared over Alberta on the 12th, following the passage of low area VI. The evening report of that date showed a fall in temperature of 10° to 20° over the Rocky Mountain region. During the 13th the pressure rose above 30.80 over the region north of North Dakota and eastern Montana, the temperature fell 30° to 40° in the middle Missouri valley, and the line of freezing weather reached Kansas City, Mo. The pressure continued above 30.80 over and north of northern North Dakota during the 14th, and the temperature fell 20° to 30° in the middle and upper Mississippi valleys and from the western lake region to the northern part of the east Gulf states. The evening of the 15th this high area was central over the Red River of the North Valley, and a ridge of high pressure extended thence to the lower Ohio valley. The morning report of that date showed freezing weather to the

north part of the east Gulf states, and in the evening a temperature fall of 20° to 30° was noted in the middle Atlantic and New England states. This high area moved rapidly south-eastward to the upper Ohio valley on the 16th, with a marked decrease of pressure, and passed thence off the New Jersey coast the morning of the 17th. The morning of the 16th the line of freezing weather was carried to central South Carolina, and heavy frost was reported in the interior of that state.

VI.—Following the advance of high area V the pressure continued high over the British Northwest Territory, and the evening of the 16th this high area occupied Assiniboia, with pressure above 30.50. Moving rapidly southward over the Dakotas and Nebraska during the 17th, with a fall in temperature of 10° to 20° in the Rocky Mountain regions and central Texas, this high area passed over the northern part of the east Gulf states during the 18th, and disappeared off the south Atlantic coast during the 19th, with light and heavy frosts in the middle and east Gulf and south Atlantic states the morning of the 19th. Light and heavy frosts were noted in the south Atlantic states the morning of the 20th.

VII.—The pressure continued high over the Saskatchewan Valley, following the southerly movement of VI, and during the 18th number VII moved southeastward over North Dakota. Passing thence rapidly eastward over the Great Lakes this high area disappeared off the New England coast during the 20th, its advance being unattended by marked changes in temperature.

VIII.—Appeared over the British Northwest Territory, following the passage of low area VIII, and the evening of the 21st occupied the region north of North Dakota, with pressure above 30.30. The morning report of the 21st showed a fall in temperature of 20° to 30° in the Red River of the North and eastern Saskatchewan valleys, and by the evening of that date the temperature had fallen 20° in Upper Michigan. Moving rapidly eastward during the 22d, with pressure above 30.70 at the morning report, this high area reached the middle Saint Lawrence valley, attended by a cold wave in Ontario, the Saint Lawrence Valley, and northern New England. During the 23d the high area moved south of east over Nova Scotia, and the cold wave extended to the Maine coast in the early morning.

IX.—Appeared in the Northwest on the 23d, following the passage of low area IX. On that date the temperature fell 20° to 30° over western Missouri and southern Kansas. During the 24th this high area advanced over the middle Missouri valley, a cold wave overspread the Ohio Valley and the southwestern lake region, and the line of freezing weather was carried to Oklahoma. During the next 24 hours the area of high pressure moved slowly northeastward to the Red River of the North Valley, and the cold wave extended over the upper Ohio valley and the eastern lake region. From the 26th to the 28th, inclusive, the pressure continued high over the upper lake region, and rose above 30.60 over northern Ontario the morning of the 28th. On the 28th there was a slight fall in temperature in the Atlantic coast states. Light frost was noted in northwestern Louisiana the morning of the 27th. During the 29th this high area disappeared off the middle Atlantic coast. The morning of the 29th heavy frost was reported in northern Arkansas, and light frost in northern Louisiana. During the 30th and the morning of the 31st the pressure continued high over the Gulf of Mexico and the Gulf States. The morning of the 30th light frost was noted at points in the interior of the Gulf and south Atlantic states.

LOW AREAS.

A large proportion of the low areas of March advance from the middle and northeast slopes of the Rocky Mountains to

the valley and Gulf of Saint Lawrence; less frequented tracks are traced eastward and northeastward from the southeast slope of the Rocky Mountains and the Gulf of Mexico. The average velocity of March low areas, 33 statute miles per hour, is 4 miles per hour less than the average rate of advance of low areas for January and February. An average of about 2 low areas per month advance from the north Pacific and traverse the continent in March.

The tracks of 12 areas of low pressure are plotted on Chart I for March, 1893, the average number traced for the corresponding month of the last 20 years being 12. Of the low areas traced for the current month 5 advanced from the north Pacific coast, 2 appeared over the British Northwest Territory, 4 apparently developed over the middle or southern Rocky Mountain regions, and 1 occupied Colorado at the opening of the month. Four of the low areas from the north Pacific coast, and the low areas from the British Northwest Territory reached the Canadian Maritime Provinces, and one of the north Pacific low areas occupied the Lake Superior region at the close of the month. The low areas from the middle and southern Rocky Mountain slopes passed eastward off the middle and south Atlantic coasts. The low area from Colorado disappeared north of the Saint Lawrence River. The average velocity of the low areas was about 4 miles per hour greater than usual.

Among the more notable features of the month were the destructive storms in the Southeastern States the evening of the 3d, and those of the 23d in the states of the Ohio and middle Mississippi valleys. The storms referred to attended the passage of low areas II and IX, respectively, and are described under "Local Storms."

The following is a description of low areas whose paths are shown on Chart I:

I.—Apparently developed over the middle Rocky Mountain region during the 1st. By the evening report of the 2d the storm-center had advanced eastward to Illinois, with pressure below 29.80, and rain had fallen in the Mississippi and lower Ohio valleys and the Gulf States. During the 3d the center passed northeastward over the lower lakes with a marked increase in energy, and snow was attended by high northwest winds and rapidly falling temperature in the middle and upper Mississippi, and lower Ohio valleys and the Lake region. By the morning of the 4th this low area had disappeared north of the Saint Lawrence Valley, and the snow area had extended over the middle Atlantic states and the greater part of New England.

II.—Developed the night of the 2d in the southwest part of a trough of low pressure which extended from the Lake region to New Mexico, and the morning of the 3d was central over southwestern Arkansas, with pressure below 29.80. During the 3d this low area was forced eastward by the rapid advance from the Northwest of high area III, and at the evening report a trough of low pressure extended from southern Virginia to the middle Gulf coast. The elongated area of low pressure was bounded by the isobar of 29.60, and included two distinct cyclonic areas, or storm-centers, one of which was central over western North Carolina, and the other over central Alabama. The southern branch of this low area was attended, the evening of the 3d, by local storms of exceptional severity along a line traced from east-central Mississippi to west central Georgia. Snow, with rapidly falling temperature and high winds, occurred in the Mississippi Valley as far south as Memphis, Tenn., and rain and westerly gales were general over the Gulf States. By the morning of the 4th the center of disturbance had passed off the North Carolina coast, with pressure below 29.30, westerly gales prevailed along the south Atlantic and Florida coasts, and the snow area had extended to central Alabama and central Georgia. During the 4th this low area moved rapidly north-

eastward over the ocean, attended by severe north to north-west gales from Maine to Florida, snow, followed by clearing weather from the Carolinas northward, and much colder weather in the Atlantic coast states.

III.—Advanced from the British Northwest Territory and occupied Manitoba the morning of the 6th. By the evening report of the 6th the center had passed to the region north of Lake Superior, with pressure below 29.70, and light snow flurries in east-central Wisconsin. Moving rapidly eastward this low area disappeared over or north of the Gulf of Saint Lawrence during the 7th, with light rain or snow, followed quickly by clearing weather, in the middle Atlantic and New England states.

IV.—Apparently advanced from the south Pacific coast, and the evening of the 6th was central over northern New Mexico, with pressure below 29.90, and rain from southern California to extreme western Texas. During the 7th the center passed to south-central Kansas and a subsidiary development appeared over the lower Rio Grande Valley, the temperature rose 20° in Arkansas and Tennessee, heavy rain fell in areas in the Western and Southwestern States, and hailstorms were reported in south-central Texas. During the 8th the low area moved northeastward and at the evening report was central near Davenport, Iowa, with pressure below 29.20. On that date heavy rain fell in the middle and upper Mississippi, lower Missouri, and Ohio valleys, and the southwestern lake region, and severe local storms were reported in southern Illinois and southern Indiana in the afternoon. During the 9th the center of disturbance passed off the New Jersey coast, and by the evening report had united with an area of low pressure which occupied Chesapeake Bay in the morning, heavy rain fell in the lower lake region and from New Jersey and Pennsylvania over New England, and gales prevailed along the middle Atlantic and New England coasts.

V.—Advanced from the north Pacific and the evening of the 7th was central north of Washington with pressure below 29.40. On that date the temperature rose 30° to 40° over north-eastern Montana, and rain fell along the Pacific coast and over the northern plateau region. During the 8th the storm-center advanced to southern Alberta, rain continued along the Pacific coast and over the northern plateau region, and snow fell over the middle plateau region. Moving slowly south-eastward over the Missouri Valley this low area reached south-western Minnesota the evening of the 10th, with snow in the Missouri Valley, and rain in the west Gulf states. During the 10th the storm-center moved over Lake Superior, with pressure 29.30 at the morning report, the temperature rose 20° in eastern Ontario and the Saint Lawrence Valley, the rain area extended to the middle and south Atlantic coasts, and high south to west winds prevailed over the Great Lakes. Passing eastward, with a marked loss of energy, this low area disappeared east of Nova Scotia during the 13th.

VI.—Advanced from the north Pacific and was central north of Washington the evening of the 11th, with pressure below 29.60, heavy rain along the Pacific coast and over the northern plateau, heavy snow in the Sierra Nevada Mountains, and southerly gales in central and northern California. During the 12th the center of disturbance advanced rapidly southeastward to Nebraska, with pressure below 29.50, snow fell over the middle and northern plateau regions and the Northwest, and high west to northwest winds prevailed in the Missouri Valley and the middle and northern Rocky Mountain regions. By the evening of the 13th the center had reached southern Lake Michigan, the snow area had extended over the upper lakes, and a northeast gale prevailed over Lake Superior. During the 14th this low area passed to the region north of the upper Saint Lawrence river, and at the evening report a secondary storm appeared over Chesapeake Bay. On that date snow fell in the Lake region and Ohio Valley, and rain was

reported from Virginia to New York. The night of the 14th thunderstorms were noted in Connecticut. By the morning of the 15th the storm-center had advanced to the west Maine coast, with pressure 29.36 at Portland, and by the evening report it had passed to the west coast of the Gulf of Saint Lawrence, with pressure below 29.30. On that date snow was quickly followed by clearing weather in the middle Atlantic and New England states, thunderstorms occurred in Massachusetts in the early morning, and northwest gales prevailed along the middle Atlantic and New England coasts.

VII.—Apparently developed in the southeastern part of an area of low pressure which extended from the north Pacific coast over the southern plateau region, and the evening of the 15th was central near Santa Fe, N. Mex., with pressure below 29.90. During the 16th this low area advanced to south-western Missouri, without evidence of marked energy, a second low area appeared over the west part of the Gulf of Mexico, rain fell in the middle and west Gulf states, heavy snow was noted in the upper Mississippi and Missouri valleys, and brisk south-east to southwest winds prevailed on the west Gulf coast. During the 17th the storm-center moved eastward over the Gulf and south Atlantic states, and was joined in the early morning by the low area from the Gulf of Mexico, rain was followed by clearing weather in the Gulf States, heavy rain fell along the south Atlantic coast, and thunderstorms were reported in Florida.

VIII.—The pressure was low on the north Pacific coast on the 17th and 18th, and on the 19th this low area was central north of Montana, with pressure below 29.70. During the 20th the storm-center advanced to Lake Superior, with pressure below 29.60, the temperature rose 10° to 20° in the Ohio valley and the Lake region, and rain and southerly gales prevailed over the middle and western Lake regions. On the 21st the center passed to the northern part of the Gulf of Saint Lawrence, and rain was followed by clearing weather in the middle Atlantic and New England states.

IX.—Apparently moved northward off the middle Pacific coast during the 20th, and the morning of the 21st was central near Roseburg, Oregon, with pressure 29.40, and rain generally along the Pacific coast. By the evening of the 21st this low area had advanced to the middle Rocky Mountain region, with pressure below 29.60. On that date rain fell from the Pacific coast over the plateau region. During the 22d the center of disturbance passed to south-central Kansas, with pressure 29.40, the temperature rose 20° in Missouri, rain fell in the Southwest and from the Ohio Valley to the middle Atlantic coast, snow was reported in the Northwest and thence over the Lake region and southern New England, and destructive windstorms were reported from Texas and Oklahoma to the western lake region.

On the 23d this low area moved northeastward over Iowa, with pressure below 29.40 at the evening report, the temperature rose 20° to 30° in the southwestern lake region and over the northern Ohio valley, rain or snow fell generally in the central valleys and thence to the Atlantic coast, and destructive local storms occurred from Louisiana and Mississippi over western Tennessee, western Kentucky, Indiana, and parts of the western lake region. During the 24th this low area passed northeastward over the upper lake region, with pressure 29.20 at the morning report, the temperature rose 20° along the middle Atlantic coast, snow fell in the upper Mississippi valley and the Lake region, rain was reported in the middle and south Atlantic states, and southwest to north-west gales prevailed over the Great Lakes. By the morning of the 25th the center of disturbance had passed over the north part of the Gulf of Saint Lawrence.

X.—Apparently developed over Texas on the 25th, and passed thence over the Gulf of Mexico during the 26th, with heavy rain and thunderstorms over the Florida Peninsula in

the evening. By the morning of the 27th the center had passed eastward over the Florida Peninsula, with a southwest gale over southern Florida.

XI.—Advanced from the north Pacific and the evening of the 28th occupied northern Alberta, with pressure below 29.60. By the evening of the 29th this low area had advanced to the Lake Superior region, with pressure below 29.40. On that date no precipitation was noted save at Lake Superior stations. During the 30th the center advanced to the lower Saint Lawrence valley, with light rain in New York and New England, and high westerly winds in the Lake region. By

the morning of the 31st the low area had disappeared east of Nova Scotia.

XII.—Advanced from the north Pacific and the morning of the 30th occupied Alberta, with pressure below 29.60. During the 30th this low area moved eastward north of Montana and North Dakota, with pressure below 29.40. During the 31st the low area increased in energy, and at the close of the month occupied Lake Superior with pressure below 29.30, and southerly gales over the western lake region. Very light precipitation at extreme north-central stations attended the passage of this low area on the 30th and 31st.

Tabulated statement showing principal characteristics of areas of high and low pressure.

Barometer.	First observed.			Last observed.			Duration.	Velocity per hour.	Maximum pressure change in 12 hours, maximum abnormal temperature change in 12 hours, and maximum wind velocity.											
	Date.	Lat. N.	Long. W.	Lat. N.	Long. W.				Station.	Rise.	Date.	Station.	Fall.	Date.	Station.	Direction.	Miles per hour.	Date.		
High areas.							<i>Days.</i>	<i>Miles.</i>		<i>Inch.</i>										
I.....	1	35	87	37	81	1.0	15		Norfolk, Va.....	.26	1	Knoxville, Tenn.....	10	2	Titusville, Fla.....	e.	36	2		
II.....	2	51	114	32	84	3.5	27		Wilmingon, N. C.....	.70	4	Abilene, Tex.....	38	3	Kearney, Nebr.....	n.	46	3		
III.....	4	50	108	43	96	1.0	29		Huron, S. Dak.....	.16	5	Moorhead, Minn.....	22	5	Rapid City, S. Dak.....	n.	32	4		
IV.....	10	32	115	40	82	2.0	44		White River, Ont.....	.70	12	Grand Haven, Mich.....	20	11	Galveston, Tex.....	nw.	30	11		
V.....	12	52	115	40	74	4.5	26		Medicine Hat, N. W. T.....	.64	12	Rapid City, S. Dak.....	28	12	Valentine, Nebr.....	nw.	36	14		
VI.....	16	52	107	35	83	2.5	32		Abilene, Tex.....	.36	17	Abilene, Tex.....	18	17	Key West, Fla.....	ne.	36	19		
VII.....	18	43	102	43	72	1.5	43		Saint Paul, Minn.....	.22	19	Huron, S. Dak.....	17	19	Columbus, Ohio.....	nw.	26	19		
VIII.....	21	52	103	47	68	2.0	34		Father Point, Que.....	.68	22	Quebec, Que.....	24	22	Nantucket, Mass.....	ne.	48	23		
IX.....	23	51	105	42	75	5.5	17		Rockliffe, Ont.....	.54	25	Kansas City, Mo.....	27	23	Kearney, Nebr.....	nw.	36	24		
Mean.....							29													
Low areas.										<i>Fall.</i>										
I.....	1	38	105	47	77	2.0	35		Indianapolis, Ind.....	.34	2	Nashville, Tenn.....	16	2	Cleveland, Ohio.....	nw.	34	3		
II.....	3	34	94	36	73	1.0	50		Charlotte, N. C.....	.34	3	Shreveport, La.....	15	3	Kittyhawk, N. C.....	n.	50	4		
III.....	6	52	96	50	72	1.0	46		Qu'Appelle, N. W. T.....	.42	6	La Crosse, Wis.....	24	6	Buffalo, N. Y.....	sw.	46	6		
IV.....	6	36	107	40	73	3.0	27		Chicago, Ill.....	.50	8	Little Rock, Ark.....	19	7	Chicago, Ill.....	se.	55	8		
V.....	7	52	120	44	67	5.5	22		Sault Ste. Marie, Mich.....	.58	11	Swift Current, N. W. T.....	24	7	Fort Canby, Wash.....	s.	60	7		
VI.....	11	51	121	48	65	4.0	35		Concordia, Kans.....	.64	12	Winnemucca, Nev.....	24	11	Kearney, Nebr.....	nw.	60	11		
VII.....	15	37	107	34	74	2.0	43		Pueblo, Colo.....	.46	15	Pueblo, Colo.....	19	15	Fort Canby, Wash.....	s.	66	11		
VIII.....	19	53	115	50	67	2.5	40		Alpena, Mich.....	.54	20	Calgary, N. W. T.....	34	19	Amarillo, Tex.....	se.	50	15		
IX.....	21	44	121	50	64	4.0	34		Father Point, Que.....	.60	24	Detroit, Mich.....	27	23	Cleveland, Ohio.....	sw.	44	21		
X.....	25	32	99	30	79	1.5	39		Abilene, Tex.....	.22	25	San Antonio, Tex.....	12	25	Amarillo, Tex.....	sw.	60	22		
XI.....	28	54	113	46	60	2.5	42		Port Arthur, Ont.....	.70	29	Sioux City, Iowa.....	26	29	Key West, Fla.....	sw.	50	27		
XII.....	30	52	113	48	88	1.5	32		Qu'Appelle, N. W. T.....	.58	30	Calgary, N. W. T.....	22	30	Chicago, Ill.....	sw.	48	30		
Mean.....							37													

*Pikes Peak, Colo., 85 miles w., 12th.

†Pikes Peak, Colo., 90 miles sw., 15th.

‡Pikes Peak, Colo., 82 miles sw., 31st.

NORTH ATLANTIC STORMS FOR MARCH, 1893.

[Pressure in inches and millimeters; wind-force by Beaufort scale.]

The paths of storms that appeared over the west part of the north Atlantic Ocean during March, 1893, are shown on Chart I. These paths have been determined from reports of observations by shipmasters received through the co-operation of the Hydrographic Office, Navy Department, and the "New York Herald Weather Service."

Over the north Atlantic Ocean the March normal pressure is highest in a belt reaching from the northwest coast of Africa to the Florida and south Atlantic coasts, where it is above 30.10 (764). The March normal pressure is lowest in an area extending from southern Greenland over Iceland, where it is below 29.70 (754).

In March there is usually an increase of pressure from the Azores over the British Isles, Iceland, and Greenland. The greatest increase of pressure occurs over mid-ocean north of the 50th parallel, where it amounts to more than .15 inch. Over the western part of the ocean there is usually a decrease of pressure. The most marked decrease of pressure is shown over the Canadian Maritime Provinces and along the New England coast, where the normal pressure is about .10 inch lower than for February.

The north Atlantic storms for March have an average velocity of about 22 statute miles per hour, and an average of

about 2 storms traverse the ocean from coast to coast. The storms of that month usually pass from the Nova Scotia or New England coasts to the region northeast of the Banks of Newfoundland, where the principal track divides, one branch passing to Iceland and thence to the north coast of Norway. The other branch crosses the ocean to the region west of the British Isles, where it divides, one class of storms moving over or north of Scotland, and the other over the Bay of Biscay. A limited number of storms appear over the Gulf of Mexico and pass thence northeastward to Newfoundland or the Grand Banks.

In March, 1893, two storms, low areas IX and X, traversed the ocean from the American coast to European waters. With the exception of low areas II and VII, which passed off the south Atlantic coast the morning of the 4th and the evening of the 17th, respectively, the storms of the western part of the ocean possessed small energy. Over mid-ocean the only severe storms of the month prevailed on the 2d, 21st, and 22d. Over the eastern part of the ocean generally settled weather prevailed during the first and third decades of the month.

The month opened with low barometric pressure from coast to coast. An area of low pressure occupied the ocean south